This Month's Headlines

Birth Defects
- Antihistamines and birth defects: a systematic review of the literature.
- Preconception healthcare and congenital disorders: systematic review of the effectiveness of preconception care programs in the prevention of congenital disorders.

Newborn
- Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013.
- Preconception healthcare delivery at a population level: construction of public health models of preconception care.

Publications


Member States in the South-East Asia have observed declining child mortality over the past two decades. This decline has been possible because of improved health services and a reduction in child mortality from causes of improved health services and a reduction in child mortality from causes such as birth asphyxia, infectious diseases and malnutrition. However, mortality from birth defects has remained constant, which has resulted in it becoming a larger proportional cause of infant mortality. Birth defects are not only life-threatening but also result in long-term disability, and negatively affect individuals, families, health care systems and societies. Several interventions have been shown to be effective for prevention of birth defects in a variety of social and economic settings.

Read full publication

Birth Defects

Antihistamines and birth defects: a systematic review of the literature.

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Author information

Abstract

Introduction:
Approximately 10 - 15% of women reportedly take an antihistamine during pregnancy for the relief of nausea and vomiting, allergy and asthma symptoms, or indigestion. Antihistamines include histamine H 1-receptor and H 2-receptor antagonists. Areas covered: This is a systematic evaluation of the
peer-reviewed epidemiologic literature published through February 2014 on the association between prenatal exposure to antihistamines and birth defects. Papers addressing histamine H1 or H2-receptor antagonists are included. Papers addressing pyridoxine plus doxylamine (Bendectin in the United States, Debendox in the United Kingdom, Diclectin in Canada, Lenoten and Merbental in other countries) prior to the year 2001 were excluded post hoc because of several previously published meta-analyses and commentaries on this medication. Expert opinion: The literature on the safety of antihistamine use during pregnancy with respect to birth defects is generally reassuring though the positive findings from a few large studies warrant corroboration in other populations. The findings in the literature are considered in light of three critical methodological issues: i) selection of appropriate study population; ii) ascertainment of antihistamine exposures; and iii) ascertainment of birth defect outcomes. Selected antihistamines have been very well studied (e.g., loratadine); others, especially H2-receptor antagonists, require additional study before an assessment of safety with respect to birth defect risk could be made.

**KEYWORDS:** antihistamines; birth defects; pregnancy; prenatal exposure


Preconception healthcare and congenital disorders: systematic review of the effectiveness of preconception care programs in the prevention of congenital disorders.

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Abstract:
Congenital disorders are a leading cause of global burden of disease; the birth prevalence remains constant at 6%. Initiating preconception care before pregnancy may be an effective strategy to reduce congenital disorders and improve the health of reproductive-age women. Our objectives are: (1) To identify components of preconception interventions, (2) to assess the effectiveness of preconception interventions in reducing the burden of congenital disorders, and (3) to prioritize these interventions. Medline and Science Direct search terms included: preconception, pre-pregnancy, childbearing, reproduction, care, intervention, primary care, healthcare, model, program, prevention, trial, efficacy, effectiveness, congenital disorders OR abnormalities. Inclusion criteria were: (1) English, (2) human subjects, (3) women of childbearing age, (4) 1980-current data, (5) all countries, (6) experimental studies, (7) systematic reviews or meta-analysis, (8) program reports/evaluations. Data was collected and abstracted by two independent reviewers. To prioritize preconception interventions likely to have the largest impact at a population level, a ranked scoring system was created incorporating the following: (1) quality of evidence supporting the intervention, (2) effect size of the intervention, and (3) global burden of the specific congenital disease. Preconception interventions include risk screening, education, motivational counseling, disease optimization and specialist referral. The most effective interventions, based on the strength of evidence, size of impact of intervention, and disease burden are: folic acid fortification/supplementation, diabetic control, smoking and alcohol interventions, HIV management, thrombophilia screening, obesity prevention and epilepsy management. Although multiple conditions require preconception attention, only nine interventions have evidence to support their effect on congenital disorders through a randomised control trial, systematic review or meta-analysis. There is a need for more high-level research in evaluating certain preconception interventions. These findings have significant implications on planning and implementation of preconception care.

Newborn


Global, regional, and national levels of neonatal, infant, and under-5 mortality during 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013.


BACKGROUND:
Remarkable financial and political efforts have been focused on the reduction of child mortality during the past few decades. Timely measurements of levels and trends in under-5 mortality are important to
assess progress towards the Millennium Development Goal 4 (MDG 4) target of reduction of child mortality by two thirds from 1990 to 2015, and to identify models of success.

METHODS:
We generated updated estimates of child mortality in early neonatal (age 0-6 days), late neonatal (7-28 days), postneonatal (29-364 days), childhood (1-4 years), and under-5 (0-4 years) age groups for 188 countries from 1970 to 2013, with more than 29,000 survey, census, vital registration, and sample registration datapoints. We used Gaussian process regression with adjustments for bias and non-sampling error to synthesise the data for under-5 mortality for each country, and a separate model to estimate mortality for more detailed age groups. We used explanatory mixed effects regression models to assess the association between under-5 mortality and income per person, maternal education, HIV child death rates, secular shifts, and other factors. To quantify the contribution of these different factors and birth numbers to the change in numbers of deaths in under-5 age groups from 1990 to 2013, we used Shapley decomposition. We used estimated rates of change between 2000 and 2013 to construct under-5 mortality rate scenarios out to 2030.

FINDINGS:
We estimated that 6.3 million (95% UI 6.0-6.6) children under-5 died in 2013, a 64% reduction from 17.6 million (17.1-18.1) in 1970. In 2013, child mortality rates ranged from 152.5 per 1000 livebirths (130.6-177.4) in Guinea-Bissau to 2.3 (1.8-2.9) per 1000 in Singapore. The annualised rates of change from 1990 to 2013 ranged from −6.8% to 0.1%. 99 of 188 countries, including 43 of 48 countries in sub-Saharan Africa, had faster decreases in child mortality during 2000-13 than during 1990-2000. In 2013, neonatal deaths accounted for 41.6% of under-5 deaths compared with 37.4% in 1990. Compared with 1990, in 2013, rising numbers of births, especially in sub-Saharan Africa, led to 1.4 million more child deaths, and rising income per person and maternal education led to 0.9 million and 2.2 million fewer deaths, respectively. Changes in secular trends led to 4.2 million fewer deaths. Unexplained factors accounted for only -1% of the change in child deaths. In 30 developing countries, decreases since 2000 have been faster than predicted attributable to income, education, and secular shift alone.

INTERPRETATION:
Only 27 developing countries are expected to achieve MDG 4. Decreases since 2000 in under-5 mortality rates are accelerating in many developing countries, especially in sub-Saharan Africa. The Millennium Declaration and increased development assistance for health might have been a factor in faster decreases in some developing countries. Without further accelerated progress, many countries in west and central Africa will still have high levels of under-5 mortality in 2030.
aim to reflect differing aspects of preconception healthcare delivery.